Gerner, A, & Guerra, M., 2014, On the Cinematic Self. Cinematic experience as "Out-of-Body" Experience? In: A. Gerner, J. Gonçalves 8eds.) Altered Self and Altered Self Experience,...

Chapter · July 2014

CITATIONS
0

READS
70

2 authors, including:

Alexander Gerner
University of Lisbon
44 PUBLICATIONS **12** CITATIONS

SEE PROFILE

Gerner, A, & Guerra, M., 2014, On the Cinematic Self. Cinematic experience as "Out-of-Body" Experience? In: A. Gerner, J. Gonçalves 8eds.) Altered Self and Altered Self Experience, Norderstedt: Bod, p.85-106

Disembodiment of Self-experience: Out-of-Body Experience,
Full-Body Illusion and Cinematic Experience

...

5

On the Cinematic Self. Cinematic experience as "Out-of-Body" experience?

.

Alexander Gerner[1]
CFCUL, Universidade de Lisboa, Portugal
Michele Guerra
University of Parma, Italy

.

We are our bodies—but in that very basic notion one also discovers that our bodies have an amazing plasticity and polymorphism that is often brought out precisely in our relations with technologies. We are bodies in technologies.
—Don Ihde, *Bodies in Technologies*

Keywords: cinematic experience, immersiveness, cinematic self, perspective- taking, OBE

Introduction

What we generally suppose in this chapter is that film experience is, from its very beginning, thought of as an experience rooted in our brain-body system, aiming to *externalize* our cognitive processes, feelings, emotions, and motor behavior (Münsterberg 1916; Freeburg 1918) and that certain modalities of perspective taking, switching perspectives, dynamic emotional empathetic behaviour with other bodies are part of a general cinematic experience that might be also present especially in technically induced or manipulated Out-of-Body Experiences (OBE´s).

Therefore we propose an explorative journey in the territory of the cinematic (bodily) self in relation to (1) Out-of-body experiences and (2) different modes of "(inter-) embodied" cinematic experience in relation to perspective taking and immersion. This will be persued in a theoretical "bifocal vision" of *plastic and polymorphic bodies and selves in technologies*.

Therefore we explore the notion of self in OBE experiences in relation to the natural medium of the human body that sometime has been iconically related to the

cinematic apparatus. We give a short overview on a debate on film rooted in the idea that this relatively new form of art is to some extent rooted in a "neurological conception of modernity" (Singer 1995) and that its appeal is basically related to what Georg Simmel would call an intensification of the nervous stimulation resulting from the swift and uninterrupted change of outer and inner stimuli. During the first decades of XX century, several physicians start studying movies because they guess that something physical is happening to a viewer *whose mental and bodily faculties are altered cinematographically*. Such a position is basically shared by the tradition of French filmology – gathered around the "Revue International de Filmologie" –, by people like Erich Feldmann (1953), who quite clearly talked of a *bilocated* mind (cf: Furlanetto et al 2013) during film-watching, describing film experience like formed by two ellipses, one related to the real world and the other to the fiction with a small area in between intersection enacted by the viewer still on his seat in the darkness. Henri Wallon (1953) then linked this discussion to viewers' motor behavior and mirror mechanisms.

Finally we will make a first explorative journey into the concept of "*Cinematic experience as a temporally limited immersive self-loss in the other*" or inside –the-other-(body) experience a) suspended in its status nascendi b) a flight interrupted when the lights are switched on, or c) a morphing that regresses when we "drop out of the game".

1. Cinematic experience

According to a consolidate tradition within film studies, film experience challenges our spatio-temporal cognition and implies an alteration of viewers' self and body and thus their embodied self, by using film style and editing to trigger in some cases something very similar to Out-of-Body-Experiences (OBEs), switching the spectator's viewpoint and her emotional and empathetic identification or better: his or her immersivenes into the *film's body*.

With such a term – which has been used both in studies within film phenomenology and in those within cinematic subjectivity (Sobchack 1992, 2004; Barker 2009; Chateau 2011) – we refer to the layers of resonance represented by the bodies depicted on the screen, but also to the gestuality simulated by the complex experience with the movie itself, that is to the ability of *film techniques of conveying a peculiar form of subjectivity*, including the immersiveness of the self of the spectator in the cinematic experience. Let´s recall editing style that conveys such a form of cinematic (inter-) subjectivity as proposed by Walter Murch (2001):

According to the American film-editor's *Rules of Six* an "ideal" editing style conveys six criteria at once and in a certain hierarchy of importance: 1) emotional entanglement with the emotion of the cinematic moment ("51%") 2) Advancement

of the story ("22%") 3) Rhythm ("10%") occuring at the rhythmically right moment 4) Attentional Eye-Trace ("7%"), acknowledging the audience's focus of interest at each moment 5) Planarity ("6%") of the screen and 6) the three dimensional continuity of actual space ("4%") where people are in the room and in relation to one another.

Interestingly, one could add the *suspension of feeling one´s somatic body* as one of the self-evident rules of cinematic experience together with the *getting emotionally entangled within* not only the *character of the movie* but *with the whole "body of the film"*: cinematic experience becomes an outcome of a specific embodied technique (Ihde 2002,2010).

▪

If we vary our perspective, we can ask: Could we consider OBE as a *cinematic experience without a screen* in which the proper body image would be projected outside?

Why does perspective matter (Petkova et al 2011)? How do alteration of perspective introduce change in the 1st Person Perspective (1PP) realized by a) alienation (OBE) or b) appropriation (avatar identification) (see: Ganesh et al 2011) as well as by the switch in between 2nd, 1st and 3rd PP in order to better understand (altered) cinematic self experience: The egocentric reference frame, our orthodox 1PP might be not as clearly as it seems our principal perspective we can assume. Beccio et al (2011) calls the First person perspective "egocentric perspective" while *imagining* another opposite perspective of our own would be for her a "disembodied perspective taking", while a second person actually sitting in front of someone would be an "embodied perspective taking". For her, perspective taking needs the presence of another person to function plainly. However, we suppose that by our image-consiousness (Husserl 2006) we are enabled to take the embodied perspective of another embodied person also in his artificial presence on a movie screen (in all its degrees of embodiment). If we talk here of perspective taking we have to clearify that we can distinguish at least the following basic forms:

1*) Visuospatial perspective taking 2) affective perspective taking 3) kinaesthetic perspective taking 4) motivational or volitional perspective taking*.

All four should seen as joint/ coordinated and sometimes segregated as in altered self -experience.

Clearly the doubeling of the somatic /virtual self in autoscopic experiences, in which the virtual body or body image is doubled and the attentional self-location between the constitutional virtual body image (see: Ihde 2002) and the somatic body schema

may switch as in OBE, should be considered different from the orthodox film experience, where a moviegoer sits still in a dark movie theater.
And nonetheless, the viewer's empathetic relations and social perspective taking with the other on the screen, that is from a fixed body position to a virtually mobile one, could lead to something similar to the feeling of displacement of one's own body (as in OBE), or transformation of one's own body (OBT; see Gardner 2013).

Our proposal is connected to what Don Ihde (2002, 2010) designates as "embodied technics" of cinematic experience: our embodied and mediated experience with and through contemporary technologies, in our case mainly cinema (a 2D moving picture in a dark room experience in which our body is quietly sitting on a chair) and derived new forms of cinematic experience and immersiveness (from frontal, stereo-sound to sensouround-sound in *Apocalypse Now* to several screens to being immersed in a 3D atmosphere).

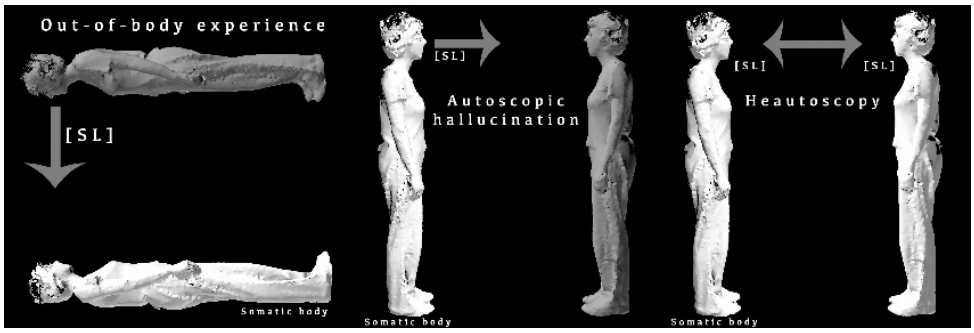
If we start from the position that our self in its dynamic constitution is actually mediated by and through our body and the technologies we experience our bodies though, we can´t favor a position of media-technologies, imaging, digital-compuational or virtual reality and film being responsible for just "disembodying ourselves". Neither could we hold a position that our bodies might be reducible to machinic bodies in which we can utopically "upload" our minds, but with John Ihde we can realistically argue that the somatic human experience of embodied technics is actually embodied or re-embodied in new interactive ways and thus our self experience is transformed through new somatic externalization and reinternalization: *we become a cinematic self in its technically instilled and mediated loops of intersbjective and empathetic embodiments- disembodiments and reembodiments.*

▪

What if, the lights never turn back on again in the embodied cinema, or if we turn them on and we were in another place or in another body? Thereby different *degrees of self-loss* and its different modes of the suspension/alteration of the self in filmic (2D, 3D) or virtual reality can be thought of. These ideas are not so far from contemporary research by Visch, Tan, and Molenaar (2010) on film immersion (2D, 3D, VR), and from Don Ihde's proposals on embodied techniques (2010), where he describes the position of the viewer respect to movies and videogames according to three different typologies: embodied, disembodied, avatar. These proposed triads of cinematic experience help us in understanding the different possible modes of the self in altered self-experience and we might include OBEs as a forth mode of the body-image in the sense of a doubled self.

2. The of Out of Body (OBE) Experience and the general mechanisms of perspective and perspective-taking

2.1 OBE´s



Diagram©2013 Alexander Gerner, In: Gerner (fc 2014)

This diagram (adopted from: Blanke & Metzinger 2008, 10) shows the dynamics of the attentional self-location [SL] or point of view in autoscopic experience: Three cases of direction of the attentional point of view in *natural cinematic experience without a screen*, either from the hallucinated body towards the somatic body in Out-of-body experience (virtual observer perspective) or from the somatic body towards the hallucinated virtual body (somatic 1P perspective) in Autoscopic hallucination or both ways in Heautoscopy (switching between somatic 1P perspective and virtual observer perspective). The somatic and the virtual body in these three cases of observer perspectives always face each other on the contrary to a "felt presence" from behind (existential feeling perspective of autoscopy), another form of autoscopic experience

OBE is often described as a breakdown of several necessary aspects of bodily self-consciousness (see: Brugger et al. 1997; Blanke et al. 2002; Aspell et al 2012, Gerner fc 2014). Thus Out-of-body experiences challenge and alter our everyday experience of the spatial unity of self and body and the identity of self and body, whereby the body is given as the most complex multisensory "object" in the world (Aspell et al 2012).

Out-of-body experiences are conventionally analyzed as "autoscopic phenomena" that- as Bolognini et al (2012) put it- "refer to complex experiences involving the illusory reduplication of one's own body". According to Mohr&Blanke (2005) autoscopic phenomena (AP) are rare, illusory visual experiences during which the subject e.g. has the impression of seeing a second own body in extrapersonal space. AP - in their view- consist in "out-of-body experience, autoscopic hallucination, and heautoscopy".

"The main forms of doubles are the visual own-body reduplications: autoscopic hallucination (AH), heautoscopy (HAS), and out-of-body experience (OBE) as well

as the rarer forms including polyopic heautoscopy and inner heautoscopy. These are referred to here as visual doubles. Other own body reduplications include feeling of a presence (sensorimotor doubles), hearing of a presence (auditory doubles), and negative heautoscopy (negative doubles)." (Blanke[2] et al 2008, 451)

For Brugger et al (2006) Heautoscopy is the encounter with one's double (the reduplication of a single body and self and thus a breakdown of integrative processes that let me identify with my body or my self), in the sense of a multimodal illusory reduplication of one's own body and self. The phenomenon of *polyopic heautoscopy* (a multiplication of body and self) according to Brugger et al (2006) "points to the multiple mappings of the body, whose disintegration may give rise to the illusory experience of multiple selves."

Autoscopic phenomena deal with viewpoint changes, illusionary self-identification, altered or abnormal self-location(s) and changes in the first- person perspective (cf. Blanke 2012). They can be ideopathic, self induced or induced by non-invasive technological aid (Blanke & Metzinger 2009) using for instance video (Lenggenhager et al 2007), virtual reality (Ehrsson 2007) or robotic devices (Ionta 2011), inducing changes in the self-location, self-identification or first person perspective in healthy subjects; Moreover, recent research has not only described phenomenologically these strange doubeling, mirrowing or shadowing phenomena of a "disrupted" self (Mishara 2010) but has shown as well that invasive manipulation of the brain can even induce a "illusory shadow person" (Arzy et al 2006) by artificial brain stimulation.

Phenomenologically OBEs can be characterized by three elements:
(1) The impression that the self is localized outside one's body. This can mean a feeling of disembodiment or the impression of a virtual body phenomon- e.g. a doubeling phenomenon of the body or an extrasomatic attentional self-location. A person experiencing an OBE in this sense would be absorbed by the experience of an (supplementary) allocentric self, besides the somatic self;
(2) The experience of seeing the world from an extracorporeal and elevated or even lowered first-person perspective, and thus changing and doubling the proper point of view: what we would generally describe as a dynamics of points of view and perspectives and their perspective switches. This dynamics in autoscopic and heteroscopic perspective-taking is of course not at all exclusive to OBEs by asking: "Could there be spatial situations in which people spontaneously adopt another's perspective rather than their own, even when not communicating to other person?" (Tversky and Hard 2009)
(3) Experience in OBEs are mostly accompanied with the non-unitary notion of the self as *doubeling or splitting of one's own body image*: the impression of seeing one's own body from alternated allocentered perspectives in relation to the somatic body.

OBEs in healthy persons are often related to sleep-paralysis, REM sleep (see Zippel 2014, this volume), lucid dreaming, trance and traumatic experience. Thus OBEs challenge and alter our "everyday" or expected experience of the spatial and temporal unity of self and body and the "identity" of global self and body in its multimodal constitution between senses, attentional self-location, action and imagination.

Autoscopic experiences in our view question:
1) the coherence of the body as one and only and exclusively mine: the "naturally" assumed somatic self-"identification" (i.e. the degree(!) to which humans identify with their own bodies: "What I experience as my body" (Blanke and Metzinger 2009)"
2) the stability and "permanence" (Merleau Ponty) of my self-experience (visual or proprioceptive feeling or vestibular) in relation to my body and to self-location (i.e., the volume in space: "Where I experience to be")
3) the relation between my experiential point of view of my self and the point of view of the somatic body: first-person perspective (i.e. , the directedness of conscious experience: "From which vantage point I experience the world")

Autoscopic experiences can help elucidate body ownership[3]. According to Tsakiris (2011) body ownership "gives somatosensory signals a special phenomenal quality, and it is fundamental to self-consciousness: the relation between my body and "me" differs from both the **relation between my body and other people's bodies** and the **relation between external objects and me**" (Tsakiri 2011, 181).

We argue that on the one hand we can partly describe autoscopic experiences such as OBE or heautoscopy as cinematic experiences of a *body without a screen*. On the other hand we can observe that the viewer's film experience in a movie theater resembles *an extended sense of "out-of body" experience* that diverges in the sense of being more of an extended "inside-of-the-other-(body)-experience" What differences do we feel when the subjective perspective puts us in the situation of emphatizing with the murderer, someone of another sex etc.? Could we actuallz put this switch of perspective to test with neuroscientific methods?

What we want to draw attention on by describing film experience as an out-of-body experience is something detectable as well in an experiment by Slater et al (2009), which shows strong evidence for the *plasticity of the body image*. Hereby male participants in a virtual reality situation even perceived the avatar of a young girl as their own body (Slater et al 2009). This brings us up to the point that these drifts of perceptions, imaginations and affects of the perspective spatially and psychologically are important to be studied by sitations of cinematic experience including 2D cinema, 3D virtual reality and avatar studies that will help us to

understand the drifting attribution of a certain body image to me or to another person or character depending on the perspective we are taking on or shifting away from. In the analysis of film experience including virtual reality and avatar studies, nonetheless we have to stay conscious about the fact that such experiences imply completely different positions of the viewer and this is crucial as we talk of dynamics of perspective taking, besides attentional self-locations (SL). The very goal of our proposal is to problematize some relevant aspects of our behavior during film watching, when we are challenged to move ourselves to a virtual environment populated by virtual agents with whom we can interact through the peculiar behavior of the camera.

Why OBEs could be interesting to be treated as cinematic experience in itself and why OBEs can be called "cinematic experience without a screen"? We need to ask further: why we not only have a) a sense of self-agency, the "prereflective experience that I am the one who is causing or generating a movement or action or thought" (Gallagher 2012) b) a sense of "self-ownership" the pre-reflexive experience that I am the one who experiences, but also the c) Perspective switches, the possibility to consciously or mostly prereflectivly switch perspectives in relation to the body-location and different extension levels of embodiment and its relation to others: my body, the other body on the screen and the film as body, the general body of the cinematic experience (that can have interbodily components) and then come back to our core body self after the screen is dark again and the lights are switched on.

How can we temporarily identify and lose ourselves/ our feeling of embodiment in an absorbing or immersive experience and then come back to a self-localisation of our own core body? These questions bring us to the topic of perspective taking.

2.2 Perspective –Taking

For Thomas Fuchs (2012, 2013) every encounter is based on the capacity to switch between your own embodied perspective and the perspective of the other and at the same time to distinguish both perspectives that is to assert yourself in front of the other. Hereby Fuchs (2013) quotes an interesting point of Blankenburg that we will take up here: That is, one has to able to integrate the egocentric and the allocentric perspective without loosing one´s own bodily center *permanently*.

"Or as Blankenburg 1965 says this to the point: Every taking over of perspective implies already a potential self-loss that however is suspended in its *status nascendi*." (Fuchs 2012b).

According to Fuchs schizophrenia is best analysed as the alienation of its own body or as a "disembodiment" (Stanghellini 2004, Fox 2005, Fuchs and Schlimme 2009).

This refers to the concepts embodied subjectivity (Embodiment), as currently used in the cognitive sciences (Varela et al. 1991, Gallagher 2005, Thompson 2007, Fuchs 2012c). Disturbances of embodiment may be classified according to Fuchs & Schlimme in two fundamental categories:"(1) as primarily affecting the subject body or prereflective embodied sense of self; such is the case, for example, in schizophrenia or depression, or (2) as being more related to the bodyimage or explicit body awareness. These include, for example, body dysmorphic disorder, hypochondriasis, somatoform disorders or eating disorders such as anorexia nervosa" Fuchs & Schlimme 2009, 571, and we could add the second type is important in cinematic experience.

Schizophrenia thus includes, according to Fuchs & Schlimme the weakening of the basic sense of self. This means a disruption of implicit bodily functioning and a disconnection from the intercorporality with others: "As a result of this disembodiment, the prereflective, practical immersion of the self in the world is lost" (Fuchs & Schlimme 2009). We could call this the *natural media immersion of the bodily self in the world* in difference to artificial technologically induced immersion as by cinematic experience or virtual reality environments. For Fuchs there is a foundational role of second person interactions for the development of social perspectives (Fuchs 2012). He argues that embodied second person interactions are not only an enabling, but also the constitutive condition for the development of an explicit first and third person perspective. This elevates the possibility of OBE´s and different kinds of perspectives and perspective taking to fundamental importance not only in social cognition but as well in the proper idea of a cinematic self and its technologically mediated existence, one of it foundational part is the switch of perspective.

Perspective taking is a developed "natural" technology of a lived human body. Perspective taking can mean the embedded ability to follow the eye gaze of the other and get empathically entangled and experience the other´s complex perspective (visual, empathic-affective, motoric etc.) and in a metaperspective describe the presentation of a scene, object, event or atmosphere from different situated vantage points in the world. This ability of perspective and orientation isdeeplz related to the possibility of switch of perspective and involving the attention to another self or ourself from another point of view, but does persepctive always imply the feeling of being grounded in a somatic body?

A) Perspective taking involves the perspective ***from x*** such as a situated subjective either extended spatio- (somato) corporal self location or a virtual or imagined selflocation as in autoscopic experiences and B) the perspective/ angle ***towards y***, for instance the objectifying one's own view of the object, and anticipating that moving to another situated vantage point. C) These changes of vantage points can

result in specific changes in presentation of an event, object, scene or atmosphere, such as a feeling towards someone, one´s own body-image, or self-concept. D) The differentiation and self/other coordination of viewpoints is an important feature of multiple perspective-takings as well as E) the constancy/stability/permanancy of perspectives towards a scene/atmosphere/object event or world during taking on a perspective and accordingly the point of view of the self. We can as well distinguish perspective-taking in the following modalities:

a) Spontaneous, involuntary or effordless Perspective-Taking (without volition or intention of taking on the perspective of oneself, the you or the other), and that is what Fuchs (2012b) calls *implicit* 1PP, 2PP or 3PP and we can also call *transparent* perspectives for the one taking on the corresponding perspective. For example spontaneously feeling oneself in someone else´s shoes, but also effordless attentional switches between the 2nd, 1st and 3rd PP.

b) Non-spontaneous, voluntary, effordfull, self-conscious or explicit (Fuchs 2012b) perspective taking (1PP, 2PP and 3PP) goes far beyond the feeling of empathy; it involves for example active effordful figuring out what others feel, perceive and think. The effordful acquisition of a perspective – as in an actors work on a role) is based on on many of the brains executive functions. It may require inhibitory control over our thought and feelings to consider the perspectives of others, and thus in a metacognitive reflection to consider the possibility of someone else besides our own thinking, cognitive flexibility to be able to see and interpret a situation in different ways can be seen.

OBE and other forms of autoscopic experiences are first of all unorthodox forms of spectatorship and they entail different forms of immersion which have to be researched on and considered within a dialectic between alienation (of self from own body, loss of somatic self) and appropriation (of avatar body among other possibilities), according – for instance – to Ganesh and colleague's works on the human brain and the virtual (2011).

Hereby we can refer to cinematic experiences as immersive stretegies in modulating and enhancing the possibility of taking on involuntarily and later also reflectively the perspective of a certain "fictional" point of view of the other.

2.3 OBE, the self and cinematic experience

So far we have been wondering whether it would be possible to compare OBEs to a sort of cinematic experience without a screen and to detect something similar to OBEs in traditional cinematic experience, by mainly focusing on the dialectic between different forms of perspective taking. As we have demonstrated so far, OBEs could be thought of as a weird form of spectatorship, which implies a

dissociation of the viewer from her own doubled (visible and somatic) body and the observation of it from an imaginary location in the extracorporeal space. Alienation and self-loss are constitutive elements of an experience that we would describe as an illusory, phantasmagoric and fictious experience. The body is bilocated and we see our own body from another dimension and position, and although this position is an illusory one, we experience our illusory second body as our own body and our real body as an image of it. This is the reason why OBE represents a very particular type of immersion of the self: the OBEer is immersed in an imaginary space, perceived within an illusory sensory-motor perspective, responding to very particular stimuli, which holds as well for cinematic experience in general.

If a non-OBEer should try to imagine an OBE, he or she would inevitably end up to refer to his or her experiences as spectator, he or she would imagine of occupying an impossible position, usually above the real body, and they should imagine an absurd point-of-view moving freely inside their room, and perhaps flying out of the window, and finally coming back to rejoin the real body. In short, they would imagine a cinematic experience: the camera is able to place us in unfamiliar positions, it can provide us an absurd point-of-view, it can wander across our room, and – as every moviegoer knows – it can make us fly with the means of the film's body. Moreover, film editing is able to regulate our attention, to elicit our emotion, to link very different places and environments in perfect continuity and transparency, and then – at the end of the movie – to allow us to re-enter our somatic body, we had forgotten about.

At the very beginning of cinema, when film theory was more a physiological matter than a cultural one, we find several writings in which film experience is described as an alteration of the human self, or as a loss of self-location and self-identification. We could recall here many writings from the first years of film history, to emphasize the sensorial novelty displayed by the movies and to demonstrate how impressive the new experience was from an affective point of view. Let us quote just two exemplar passages written in 1896 and 1919 by Maksim Gorki and Urban Gad respectively. Gorki offers a disturbing description of film experience:

"Cette vie grise et silencieuse finit par vous troubler et vous oppresser, vous avez l'impression qu'elle contient comme un avertissement, dont la signification vous échappe, mais qui est lugubre, et étreint votre cœur d'angoisse. Vous oubliez peu à peu où vous êtes, d'étranges images surgissent dans votre tête, votre conscience semble s'obscurcir, se perturber…" (Gorki 1896).

Gad's description of film experience is quite surprising and provides elements that make the comparison with the OBE's spectatorship even easier: "Les hommes dans leur grande masse naïve doivent se retrouver dans le film comme dans un miroir –

un miroir, il est vrai, suspendu en hauteur et qui contraint à lever les yeux." (Gad 1919).

The alteration of the viewer's self seems to be implied in these first descriptions of cinematic experience. On the one hand, Gorki talks of the distress of such an oppressive experience, emphasizing the alteration and perturbation of the viewer's consciousness, while on the other Gad describes the screen as a mirror placed above the viewer and capable to double her position and to put herself in a totally new dimension.

At the beginning of 20th century it is a common and widely shared idea that film experience should have been conceived as an altered state of consciousness, something between daydreams and a mysterious form of hypnosis. There is a very telling short story, published in 1907 by the popular Italian writer Edmondo De Amicis, through which we can perfectly grasp such a feeling about cinema. It is the story of a middle class Italian man, alone in his house since his wife and daughters went to theater. He sits on an armchair and thinks of his life. Gradually he starts having a weird sensation, like one who leaves his own body and floats through the room, and then along hills, mountains and valleys. Suddenly he thinks of a newsagent and he sees him quite clearly, and what is more interesting and scaring he feels the newsagent as a secondary self, having the impression that the newsagent's face has overlapped his own. If we should find a term to describe, nowadays, the experience narrated by De Amicis, maybe we would choose OBE. Nonetheless, in 1907, De Amicis chose another term: cinema. The title of the story is "Cinematografo cerebrale" ("cerebral cinema"), in which film experience and the brain are connected to emphasize the alteration of human cognition at the movies.

Although someone might sell off these judgments as naives and too strongly connected to a not yet well developed idea of film experience, it is a matter of fact that the relationship between the movie and the human mind is at the heart of what is considered to be one of the most insightful book of early film theory: Hugo Münsterberg's 1916 *The Photoplay: A Psychological Study* (2002). This distinguished Harvard psychologist – who moved from Germany to Massachussets at the end of XIX century on the invitation of William James – noticed that cinema could not be understood without referring to the effect it has on our brain-body system. Cinema, in other words, externalizes our affective-cognitive processes, feelings, emotions, and even motor behavior, by means of stylistic techniques and innovative narrative solutions: a flashback would be a kind of externalization/representation of memory, while a close-up would be the same for attention. Münsterberg's book, as we can read it nowadays, would represent the most clear reflection of a common and shared feelings about modernity as a form of intensification of the nervous stimulation, resulting from the swift and uninterrupted change of outer and inner

stimuli, to borrow Georg Simmel's description of the new metropolis at the very beginning of XX century. According to scholars like Ben Singer (1995), or more recently Christof Türcke (2002), film culture would be part of a new form of modernism based on the hyperstimulus and on a new form of *affective interaction*, and it would precisely grounded on a "neurological conception of modernity", as Singer calls it, *including the distraction from one´s own somatic body*. In other words, there is a new form of self-technique capable of shaping up our imaginary by affecting our mind and body and by challenging the viewer's spatio-temporal cognition in a totally new and impressive manner. Recalling the idea by Daney about the dialectic between two spaces and two kinds of vision – basically the same form of dialectic suggested by Feldmann and by two film phenomenologists like Sobchack and Voss –, we could observe how it is the film style which pursues and at the same time regulate this spatial negotiation, and how our multilayered and multimodal film cognition depends on the success of such a negotiation.

To better understand such a story, we should get back to the long neglected season of film-physiology, that is a period – from the beginning of 20th century to the 1920s – during which many physician start working on film in order to evaluate the impact of the new medium on the human brain (Guerra 2013) and cognitive make-up such as the "attentional self" (Gerner upcoming). Both in Europe and in US we have important studies on this way, like those of the French physician Edouard Toulouse, who, for instance, was convinced that the impression of reality largely depended on the viewer's motor simulation of the events depicted on the screen – some passages in Toulouse's works seem to anticipate the research on embodied simulation promoted after the discovery of mirror neurons (Toulouse 2010; Gallese and Guerra 2012) and its empathy in relation to a film character or a virtual object (Fuchs 2014).

Among physicans, we could mention the case of the Italian neuropsychiatrist Giuseppe D'Abundo, who wrote a paper in 1911 entitled "Sopra alcuni particolari effetti delle projezioni cinematografiche sui nevrotici" (Concerning the effect of film viewing on neurotic individuals). His idea was that a movie can determine states of psychic instability in patients like neurotics, hysterics, or paranoids. According to him, the responsible of this state is not the film plot, but "the rapid and vibratory movement of the cinematic action" (D'Abundo 1911: 434), which is able to transport the viewer in another dimension, giving him the impression to be at the same time here and there. He concludes saying that film projections should be considered dangerous for many categories of subjects.

To us it is important to rethink such an experimental background, since we know how crucial it has been for film theories like those proposed by Sergej Eisenstein (we know today how close to Aleksandr Lurija he was) in the 1920s and 1930s –

think of his idea of film editing as a form of "ek-stasis" – or by Walter Benjamin in the 1930s. An affective and sensory approach to film experience was also implied in Antonin Artaud's few writings on film, where he said that cinema "acts directly on the grey matter of the brain" (Artaud 1972, 166). It is not by accident if, in the 1950s, the new school of French filmology will restart from here, trying to shape up a field of research on film where psychology and anthropology would converge.

In 1956, the German philosopher Erich Feldmann wrote a brilliant article on the "Revue Internationale de Filmologie", in which he claimed that film experience basically depends on the viewer's ability to move from a real environment – that she occupies in the dark movie theater – to an imaginary dimension – that provided by the world depicted on the screen –, feeling herself localized outside her body. Feldmann stresses that such an experience, during film watching, is elicited without what he calls "modifications psycho-physiologiques". These are his words: "Le film réclame du spectateur ce qui semble à première vue impossible : se transporter, sans l'aide d'excitants, de stupéfiants, ni de modifications psycho-physiologiques engendrées par la seule projection lumineuse, dans une situation irréelle, tout en demeurant dans la situation réelle de la salle un être éveillé qui croit à la réalité du film qui l'absorbe." (Feldmann 1956, 84). After few lines, he adds that "l'individu voit surgir dans le cadre de sa vie une combinaison de conditions qui modifient son attitude habituelle et qui demandent une accomodation." Feldmann seems to suggest that this "accomodation" would need a kind of ability that the viewer should have in order to enjoy the movie. His assumption implies not only a change of perspective and a doubling of the viewer's presence-to-a-world, but also an alteration of the viewer's consciousness, as if she would need a cinematic consciousness provided by film techniques to enter the fictitious world of film. Without entering a debate on what we mean when we talk of cinematic consciousness (see Morin 2005, who was strongly influenced and inspired by French filmologists, Pepperell and Punt 2006, McGinn 2005), we could borrow Serge Daney's theory (1993) of film viewing and describe it as a form of alternation between a "vision bloquée" (meaning body centered, situated), and a "vision liberée" (meaning disembodied, experienced in an extrapersonal space).

We could as well recall some of the theories according to which cinema implies an alteration of the self based on a doubled spectator capable of living simultaneously in two different environments- inside a world which is unreal or all too hyperreal. Such positions are still widely shared if we think of how contemporary film phenomenology basically oscillates between the idea that the reciprocity between the viewer and the screen would originate a strange subject to be denominated "cinesthetic subject" (Sobchack 1992), and the idea that the viewer's body, resonating with the events on screen, would loan a three-dimensional body to the

screen, making the viewer nothing less than a "surrogate body" for the screen (Voss 2011), an idea amplified by the independence view of a doubled self, or artificial extention of "secondary persons"(Bainbridge 2014).

Also, more recent theories of cinematic subjectivity (Chateau 2011) seem to wonder how and whether the movie can be endowed with subjectivity, at least a simulated ot enacted form of intersubjectivity assured by the degree of immersion and self-loss of the viewer into the movie and its "extended empathy"[4] (Fuchs 2014) and immersion towards the characters represented on the screen (without their real bodies being present).

▪

For instance seeing Pedro Costa´s film "Juventude em Marcha" for the first time in the movie theatre in Lisbon and noting a switch/twist or crack in the way of perceiving while empathetically taking on perspective and feeling inside the shoes of the main character *Ventura* getting disoriented in a fragil world of his cultural survival. The anti-hero Ventura that already lost the one he loved and is disoriented in the cleanness of social housing that have windows and doors that close but don´t let the common life or the community occur, shows what could be formulated with Peter Handke as the loss of the open image, or as we could call it the whitening out of the image as a bleeching out a stain and belonging to a life world: The loss of an image of the world ("Der Bildverlust" Handke 2002) is as well a *self loss of existential feeling of belonging* to a fundamental self-world-image at the time of its loss. In the movie *Colossal Youth* [original: Juventude em Marcha] (2006) of Pedro Costa something of a life (Ventura) and culture (capverdian) is milled. This empathetic world-image that is installed in the viewer is proposed to open up the viewer´s self in the sense of an "existential feeling of being" (Ratcliffe 2008). Ventura becomes you and me, we are affected by him and become part of the film´s body: we become the one that lost a friend a woman, a life a home a culture, or simply a human belonging to this world. The film of Pedro Costa describes a bleaching of the image that simultaneously opens and makes the viewer empathetically belong to film's body, a property of pain, a memory, a march against the loss of an image and a body that holds, resists, that is valid. The film starts with the emptying of the interieur of a house by defenestration, a concrete (and political) act of ejectment of an old furniture (an interior- or *a former self is defenestrated*, through a window frame that never had a window in the first place, a place without the protection against the cold, but as well a place of social possibility of permanent openings for instance if there is need to call someone for help from the street or for company and the one who is called answering right away. In the film Ventura is obliged to accept social housing, all white walls and double windows, which is shown as the opposite as to the inicial fenestration of old furniture. The loss of viscerally felt entanglement with

the living by institutionalized, whitened and cleaned atmospheres that are aseptic and disorienting living spaces in which the doors close on their own and the window are double and soundproof, that no life sign can be detected by a call of a friend from the street: what this movie shows is a double autoscopic self-closure, a losing myself immersively in the character Ventura and the body of *Collosal Youth*, and the expression of a cultural self-loss in the narrative of the movie: a double cinematic OBE experience.

Let us therefore explore the concept of "*Cinematic experience as a temporally limited immersive self-loss in the other*". What could be the reason why players prefer to see their own avatar character entirely from an overview perspective from above (OBE perspective) and not from within a direct and absorbing 1st PP? How can we relate this back to the cinematic experience as a proto-OBE? For this we have to have a look at immersive experience.

3. Immersive experience

It seems phenomenologically more correct to not simply equal OBEs with Avatar experience- as technologic self- extension of self concept in which a distance towards the technical virtual double can be reinstalled at any given moment. However, we have to ask the following question in relation to immersive experience: *Can we be distracted from our somatic body and immersed into a fictional or cinematic body- the body I feel and am affected by as long as the cinematic experience lasts?*

Let's start to tackle this question by looking back on a phenomenological account of the basic bodily self: The basic bodily self before having a referable 1st PP or any kind of self-knowledge or self-concept in relation to contents or objects is characterized by a (pre-predicative) bodily affective self feeling, of an immediate pre-reflective self-presence. The question is if this self-feeling is already attributed to my somatic body and if this is always a conscious, or in the sense of Thomas Fuchs, *explicit* 1PP?

The self in this first ipseity or immanent account of radical self-affection, can also be described as an existential feeling of being (Ratcliffe 2008) –a self, an worldly awareness of being that is not already an object, an emotion or a mere disposition of something or itself. *I feel through bodily appearing and by being affected, but this constant floating feeling of being makes me myself.* This does not – however- mean that "I" feel exceptionally from a pure 1st PP and always consciously a "what", that is "my body". This in turn means my body through which I feel and am by what I am somatically and physicologically affected with is already part of something else than me- an internal other- and thus is experienced in different ways, that is in *Altered Self-Experiencs*. Ratcliffe[5] defines existential feeling therefore as a *relational*

bodily awareness in which the body is a seen as a kind of a *natural medium* of this existential feeling "through which" something is experienced.

Therefore Irene Mittelberg (2013), when referring to bodily movements as gestures calls these already natural media of an "exbodied mind". How strong the bond towards this natural medium – the bodily self- is can be the degree of natural immersedness inside our bodies. This feeling of being affected for Fuchs is inherent in all conscious processes and thus is able to be differentiated into a a) *primarily bodily self* b) an *ecological self* and c) a *social self*. All of these are seen under the concept of *ipsiety* or the experience of self-affection. How can we see now the immersivenes inside our body being altered by cinematic experience and its different technically produced modes by film style and editing and the atmosphere of the cinema theatre?

For a short while we start by the feeling of absorption by the cinematic dark room, leaving the conscious nexus with our somatic body by being affected by entering this cinema world. In this darkness your senses go to the light, your body is fixed on a seat, your bodily self is still, stillness as if being in a temporary tank of sensory deprevation, in which your gaze is channeled by image sound and rhythm as film editing and film style: your gaze onto the screen, and reducing the complexity about the self awareness "about" your own body by the immersion with other bodies. From the start of cinematic experience people wanted to see bodies like ours moving in space, people, animals running leaving the factory, the first kiss in film -"that´s how people leave the factory, that's how people kiss", "that's how people walk", and that´s how people escape from the train coming towards us", the scientific instinct of seeing, and feeling and running with the others on the screen as a necessity to see ourselves (as explored in the thought provoking Elias Canetti's theatre play "The comedy of vanity" (Canetti 1981) in which the only reason for a revolution is the *sensory deprivation of seeing ourselves in other* people, thus the people loosing themselves by not seeing themselves in the others, in their *own double image of a self-other*; we still want to see ourselves autoscopically in arts in the movies in a TV showbut also to immerse our body within the other– as we have a technique of social perspective taking and joint intentionality (Tomasello 2014): or let´s better say: we constitutionally need to see ourselves in order for me to be able to *form, maintain or alter myself*. We could call this the natural media immersion of the bodily self in the other. This natural immersiveness of the body can be technologically enhanced and become an artificial technologically induced immersion by external media, both natural and artificial imersiveness are part of cinematic experiences that alter the experience of self.

For Fuchs (2012, 2012b) there is a foundational role of second person interactions for the development of these immersions in the other that he calls social

perspectives. He argues that embodied second person interactions are not only an enabling, but also the constitutive condition for the development of an explicit first and third person perspective. Maybe cinematic experience can give us back a basic –almost childlike- belief in the world as if for the first time looking at the other; cinematic experience then would be another form of reembodied self experience with the other that is me on the screen: that is what Deleuze talks about in his cinema books.

When we see a bad movie, we "drop out" of the state of immersion, or bounce back to our seat and feel the uncomfortable position our body is squeezesd in, we start moving on our seat, or we look at details that are unimportant – in bad theatre we start noticing the lighting equipement- we let our attention stray in the image instead of being immersed and transported, entertained or even transformed. Instead of loosing our self we loose track of the narrative the plot, the character the situation, the film´s body, and we start thinking about something else, ruminating. The cinematic guidance of a psychogenic flight stops or crashes we are on land of our own reality instead of being in the air and out and away with the film.

▪

The cinematic phenomenon of immersion into a new cinematic body has similarity to the technically induced »body swap illusion« (Petkova/Ehrson 2008), in which manipulation of the visual perspective and correlated multisensory information (passive tactile information) from another person's body is sufficient to create the illusion of inhabiting a non-somatic body by means of a continous match between visual and somatosensory information about the state or location of the new humanoid body and the adoption of a 1PP moving the person´s perceived center of awareness from the somatic body to another artificial body.

We can describe immersion as a voluntarily induced bodily or embodied somatic self-loss experience in the other – on the contrary to involuntary or pathologic self absorption. This is exactly what aesthetic cinematic experience, in the large sense, seems about: "a new method to move a person's perceived centre of awareness from one body to another". We become part of the body of the movie, we are carried along by hands of narrative and the face of empathy and rhythm of editing style and all the characters affects, performatively presenting us with our actually unfolded complexity, in which by taking on the perspective of the other. We discover new knowledge about us and the world by the unfolding of the characters on the screen that become my other self, the story relates to my life, myself and other´s around me: in a cinematic experience the you – I-here relation: the somatic body, the body of the characters and the film´s body, as well as the narrative, mingle into a complex technically induced and experiementally felt cinematic self and with

the next illusionary continuity shot we don´t cut out parts of our body or our position in space or change our point of view etc., but we might drift or switch into the film, by shortening the loops between the filmic double of my body and the body that is the cinematic experience of the film. As Becchio et al put it: "perspective-taking entails an altercentric remapping of space, i.e. remapping of objects and locations coded with reference to the other person's body" (Becchio et al 2011).

But: *can we become a cinematic self who's self-location can be temporarily be shifted out of its body?* The notion of a cinematic -self and its possible mode OBE looking back on us, is still to be discovered: the screen becoming my virtual body, then looking back onto myself, might be described as a "proto" heautoscopy in cinematic experience. The magic latern lights up on the skin of my body- still a metaphoric way of speaking- but, maybe in the future, this might change and become reality.

Experiences as the bodyswapping art/gender project of "The Machine of Being another" hints into this direction by the direct swap of female/male bodies and the looking back onto my body from the viewpoint outside of myself. To avoid nausea the gender pairs are asked to choreograph their movements while looking onto themselves from another outside body of the other.

screenshots (p/w) from: http://www.themachinetobeanother.org/?p=1062

Through the use of Oculus Rift headsets, and first-person cameras, the Gender Swap experiment creates a visual-perceptive enhancement that partner A can see what is being recorded by the visor worn by partner B, and vice versa. A technically mediated cinematic Out-of-Body Experience created by Barcelona-based artists BeAnotherLab, in which both are asked to coordinate their body movements.

Getting lost, drawn into or involved in a plot, a narrative, a character a feature of a body or even a full body, our filmic-somatic loop becomes alive. *Does being dragged into a movie or being absorbed by a virtual cinematic experience mean that I loose myself?* The lights would never turn back on again exactly the same way as time passes in

the screening room, or in my visual field. What if this temporary self-loss experience in an extreme situation would never stop? Blankenburg describes the self-loss in the other in the case of schizophrenia, and that we are always in general already in a state of self-loss by *being with* the other- and we can add by being *in the movie with* each other- however: we can suspend this self-loss in the other by going out of the movie or taking off the VR googles, a fact that schizophrenia patients in their condition can't, they are stuck to their episodic hallucination for the time being. We usually can suspend this self-loss in its status nascendi and reassure that my somatic body is mine and your somatic body is yours. What if our imaginative flight does not land in the same place again? A question has to be answered: Is our bodily self the same/ identical after having had a cinematic experience?

Two other fundamental questions arise at the very beginning of this work in progress:

1) *How can we provide empirical data in order to test the plausibility of these proposals with respect to theories of the self and film phenomenology, and technically enhanced cinematic experience and virtual immersion?*

2) *Would this approach be the right one in order to disentangle the complex articulation of the embodied, disembodied, and re-embodied relation to cinema and, more generally, visual media in an immersed cinematic self?*

Endnotes

[1] Research of Alexander Gerner is supported by a FCT Post-Doc grant: SFRH/BPD/90360/2012

[2] According to Blanke et al (2008) we can distinguish several forms of autoscopic phenomena or illusiory doubles of a bodily self, visual, auditory the sensomotor. He also includes negative heautoscopy, the impossibility to see onself when looked up directly in the mirrow (see: Menninger-Lerchenthal, 1935) also called negative doubles, but we will not include these phenomena in this paper.

[3] Bolognini et al (2011) report the third long-lasting case of autoscopy in a patient with right occipital lesion in their study "Spatial perspective and Coordinate Systems in autoscopy. A Case Report of a "Fantome de Profil" in Occipital Brain Damage". Instead of the commonly reported frontal mirror view (fantôme spéculaire), the patient saw her head and upper trunk laterally in side view (fantôme de profil). The autoscopic image changes in relation to movement of the body. While the body is still just the perfile of the face and the upper trunck are visible, in arm movements also the arm gets visible and in full movement (walking) all correspective body parts get visible in the autoscopic image. This is important for the fact that autoscopy may come in degree and thus we should as well consider immersive degrees of embodiment in one´s own or another body.

[4] Empathy towards the "virtual other" in Fuchs account is seen as captured "*notions of (1) phantomization as a media-based simulation of direct reality which undermines the as-if-consciousness, and (2) disembodied communication which shifts the modes of empathy towards the fictional pole at the risk of merely projecting one's own feelings onto the other*."(Fuchs 2014)

[5] "I argue that most, if not all, bodily feelings are relational- they are seldom, if ever, directed exclusively at the body. Indeed, there are "bodily feelings" that do not involve the body as an object of experience at all. Instead the body manifests itself as that *through which* something else is experienced."(Ratcliffe 2012, 38)

References

Artaud, A. (1972). *Collected Works. Volume Three*. Paule Thévenin (ed.). London: Calder and Boyars

Barker, J. (2009). *The Tactile Eye.Touch and the Cineamtic Experience.* Berkeley and Los Angeles: University of California Press

Bainbridge, W. (2014). "Identity Expansion and Transcendence". In: F. Bataglia and A. Carnevale (Eds.). Reframing the Debate on Human Enhancement. *Humana.Mente 26*, 117-140

Becchio, C. et al. (2011). "In your place: neuropsychological evidence for altercentric remapping in embodied perspective-taking". *SCAN*, doi: 10.1093/scan/nsr083

Blanke, O., Metzinger, T. (2009). „Full-body illusions and minimal phenomenal selfhood." *Trends in Cognitive Science 13*, 7-13

Boellstorff, T. (2011). "Virtuality. Placing the Virtual Body: Avatar, Chora, Cypherg." In: F. Mescia-Lees. (Ed.). *A Companion to the Anthropology of the Body and Embodiment*. Hoboken NJ: Wiley-Blackwell, 504-520

Canetti, E. (1981). *The Comedy of Vanity*. PAJ playscripts: New York

Chateau, D. (ed.) (2011). *Subjectivity: Filmic Representation and the Spectator's Experience.* Amsterdam: Amsterdam University Press

D'Abundo, G. (1911), "Sopra alcuni particolari effetti delle projezioni cinematografiche nei nevrotici", *Rivista Italiana di Neuropatologia, Psichiatria ed Elettroterapia 10*

Daney, S. (1993). *L'exercice a été profitable, Monsieur*. Paris : POL

De Amicis, E. (1995). *Cinematografo cerebrale*. Roma: Salerno Editrice

Dor-Ziderman, Y., et al (2013) "Mindfulness-induced selflessness: a MEG neurophenomenological study." *Frontiers in Human Neuroscience 24*, doi: 10.3389/fnhum.2013.00582

Feldmann, E. (1956), "Considérations sur la situation du spectateur au cinéma", *Revue Internationale de Filmologie*, 26

Fuchs, T. (2014). "The Virtual Other. Empathy in the Age of Virtuality." *Journal of Consciousness Studies 21 (5-6)*, 152-173

___ (2012). "Selbst und Schizophrenie". *DZPhil 60 (6)*, 887-901

___ (2012b). "The phenomenology and development of social perspectives" *Phenom Cogn Sci* (online-first). DOI 10.1007/s11097-012-9267-x

___, Schlimme, J. (2009). „Embodiment and psychopathology: a phenomenological perspective". *Current Opinion in Psychiatry 22*, 570–575

Furlanetto, T. et al (2013). "The bilocated mind: new perspectives on self-localization and self-identification." *Frontiers of Human Neuroscience 7, 71*

Gad, U. (2008 [1919]). *Un miroir qui contraint à lever les yeux*. In: D. Banda & J. Moure (eds.), *Le cinéma naissance d'un art*. Paris: Flammarion, 416-18

Gallagher, S. (2012). Phenomenology. Hampshire: Pellgrave Macmillan

Gallese, V., Guerra, M. (2012). "Embodying Movies: Embodied Simulation and Film Studies", *Cinema: Journal of Philosophy and the Moving Image 3*

Ganesh, S., et al (2011). "How the Human Brain Goes Virtual: Distinct Cortical Regions of the Person-Processing Network Are Involved in Self-Identification with Virtual Agents", *Cerebral Cortex* Sept. 2011; doi: 10.1093/cercor/bhr227

Gardner, M. et al (2013). "Strategy modulates spatial perspective taking: evidence for dissociable embodied and disembodied routes." *Front. Hum. Neurosci.13* August 2013 ; doi: 10.3389/fnhum.2013.00457

Gerner, A (forthcoming, 2014). "Conceptual Personae of the "attentional self"". In: J. Fonseca, J. Gonçalves (eds.). "*Philosophical Perspectives on the Self*", Frankfurt, New York: Peter Lang, 198-233

Gorki, M. (2008{1896}), "Au royaume des ombres", in D. Banda et J. Moure (eds.), *Le cinéma naissance d'un art*. Paris : Flammarion, 48-52

Guerra, M. (2013), "Film-Physiology", *pH. 3*

Handke, P. (2002). *Der Bildverlust oder Durch die Sierra des Gredos*. Frankfurt: Suhrkamp

Husserl, E. (2006). *Phantasy, Image Consciousness and Memory (1898-1925).* Trans. John B. Brough. (=Husserliana: Edmund Husserl - Collected Works; Book 11) Dordrecht: Springer

Ihde, D. (2002). *Bodies in Technology.* Mineapolis: University of Minnesota

___ (2010). Embodied Technics. Automatic Press / VIP

Maguire, E. et al (1998). "Knowing where and getting there. A Human Navigation Network." Report, Science 280, 921-924

McGinn, C. (2005). *The Power of Movies: How Screen and Mind Interact*. New York: Pantheon Books

Mittelberg, I. (2013). "The Exbodied Mind: Cognitive-Semiotic Principles as Motivating Forces in Gesture." In: C. Müller, et al (Eds.) (2013). *Body – Language – Communication: An International Handbook on Multimodality in Human Interaction*. Handbooks of Linguistics and Communication Science (38.1). Berlin, New York: Mouton de Gruyter, 750-779

Menninger-Lerchenthal, E. (1946). *Der eigene Doppelgänger*. Bern

Morin, E. (2005), *The Cinema, or the Imaginary Man*, Minnesota University Press, Minneapolis

Münsterberg, H. (2002), *Hugo Münsterberg on Film: The Photoplay: a Psychological Study and Other Writings*. Allan Langdale (ed.). New York: Routledge

Murch, W. (2001). *In the Blinck of an Eye*. 2nd rev. edition. Los Angeles: Silman-James Press

Pepperell, R., Punt, M. (eds) (2006), *Screen Consciousness: Cinema, Mind and World*, Rodopi, Amsterdam-New York

Petkova, V., Ehrsson, H. (2008). "If I Were You: Perceptual Illusion of Body Swapping." *PLoS ONE 3(12)*, e3832, doi:10.1371/journal.pone.0003832

Ratcliffe, M. (2008). *Feelings of Being. Phenomenology, Psychiatry and the Sense of Reality.* Oxford: Oxford University Press

___ (2012). "The Phenomenology of Existential Feeling". In: J. Fingerhut, S. Marienberg (Eds.) *The Feeling of Being Alive*. Berlin: de Gruyter, 23-54

Singer, B. (1995). "Modernity, Hyperstimulus, and the Rise of Popular Sensationalism". In: *Cinema and the Invention of Modern Life*. L. Charney & V. Schwartz (eds.). Berkeley and Los Angeles: University of California Press

Sobchack, V. (1992), *The Address of the Eye: A Phenomenology of Film Experience*. Princeton: Princeton University Press

Slater, M. et al (2009). "Inducing Illusory Ownership of a Virtual Body." *Frontiers in Neuroscience 3*, 214–220

Tomasello, M. (2014). *A Natural History of Human Thinking*. Harvard: Harvard University Press

Türcke, C. (2002). *Erregte Gesellschaft. Philosophie der Sensation*. München: C.H.Beck

Tversky, B., Hard, B. (2009). "Embodied and Disembodied Cognition. Spatial Perspective Taking". *Cognition 110*, 124-199

Voss, C. (2011), "Film Experience and the Formation of Illusion: the Spectator as "Surrogate Body" for the Cinema", *Cinema Journal, 50 (4)*